

Clamps to DIN 3015

DIN 3015-1 Light range

DIN 3015-2 Heavy range

DIN 3015-3 Twin clamps

General

Clamps to DIN 3015 are a sophisticated modular system for fixing pipes with static and dynamic loads.

It offers several advantages:

- Damping of shocks, vibrations and noise, as well as compensation of pipe tolerances through the use of elastomer inserts
- High strength ensured by ribbed clamp bodies
- Weld plate from a single pulled piece
- Steel parts with sufficient surface protection
- Secure overhead installation through clamping effect of the plastic parts
- Can be installed on C mounting rails, also available with weld struts
- Efficient plug/screw installation of the mounting rail nuts
- Optional:
 - Elimination of rust penetration due to all-round anti-corrosion coatings
 - Gentle component mounting with clamp bodies made of a thermoplastic element

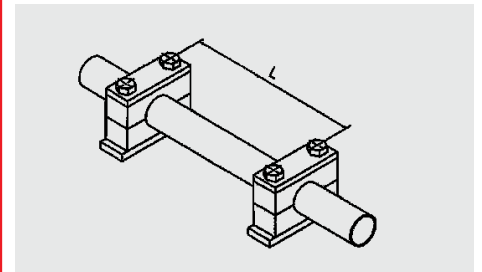
Assembly

All the pipe clamps in the HY-ROS range offer extremely impressive features: excellent resilience, optimal material resistance to tensile and tear stress, and high abrasion resistance.

The type of pipe clamp, size and material are selected depending on the application and type of stress (thermal / mechanical).

- For secure mounting, stable carrier units, such as base plates and mounting rails, are required according to the load requirements.
- The first clamp should be mounted directly after the threaded connection. This protects the connection from vibrations.
- Bends in the pipe should be clamped on both sides of the bend (pulsation direction must be taken into account).
- The prescribed material property limits must be observed.
- In the absence of any past experience, the recommended distance between pipe supports must be adhered to (see right).
- If valves are incorporated in the pipelines, it is recommended that support is provided in front of and behind these valves.

Recommended distance between pipe supports



Distance between pipe supports L	Pipe diameter D	
	min [mm]	max [mm]
1.0	6.0	12.7
1.2	12.7	22.0
1.5	22.0	32.0
2.0	32.0	38.0
2.7	38.0	57.0
3.0	57.0	75.0
3.5	75.0	76.1
3.7	76.1	88.9
4.0	88.9	102.0
4.5	102.0	114.0
5.0	114.0	168.0
6.0	168.0	219.0
6.7	219.0	324.0
7.0	324.0	356.0

Material properties of clamps to DIN 3015

Material	Density ISO 1183	Yield stress and/or tensile strength ISO 527-2	Shore hardness ISO 868	Temperature resistance	Fire protection EN 45545-2
Polypropylene (PP)	0.9 g/cm ³	26 MPa	-	-30 to +90 °C	-
Polyamide (PA)	1.13 g/cm ³	tr. 90 / lf. 45 MPa	-	-40 to +120 °C	-
Polyamide, flame-retardant (PAFF)	1.14 g/cm ³	tr. 80 / lf. 40 MPa	-	-40 to +120 °C	R22, R23 / HL1, HL3, HL3
Thermoplastic elastomer (TPE)	0.97 g/cm ³	8.3 MPa	73 ±5° Shore A Others on request	-40 to +125 °C	-
Acrylonitrile butadiene elastomer (NBR)	1.35 g/cm ³	25 MPa	73 ±5° Shore A Others on request	-35 to +90 °C	-

Bolt torque rating to DIN 3015 Part 10

Standard	Thread	Nominal size	Torque rating [Nm] with clamp material		
			PP	PA	AL
Light range	M 6	0 to 6	8	10	12
Heavy range	M 10	1 to 2	12	20	30
		3	15	25	35
	M 12	4	30	40	55
	M 16	5	45	55	120
	M 20	6	80	150	220
	M 24	7	110	200	250
	M 30	8	180	350	500
		9	200	370	500
		10	270	470	600
Twin clamps	M 6	1	5	6	-
	M 8	2 to 4	12	12	-
		5	8	8	-

Note: The specified bolt torque ratings relate to assembly with cover plates and hex. head bolts to ISO 4014 / 4017.

Packing details for light range DIN 3015 Part 1

Light range	Pairs of clamp jaws			Weld and cover plates			Bolts	
	Box (pairs)		Bag (pairs)	Box (pieces)		Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA	AL		AP	DP			
0	1000	-	50	250	500	50	1000	50
1	1000	500	50	250	500	50	1000	50
2	1000	250	50	250	250	50	1000	50
3	500	250	50	250	250	50	1000	50
4	500	200	25	200	200	25	1000	50
5	250	100	25	100	200	25	500	50
6	250	100	25	100	200	25	500	50
TMV 6 / TM6				1000		50		
Washer				-		50		
Build-up bolt the same as normal bolts								

Packing details for heavy range DIN 3015 Part 2

Heavy range	Pairs of clamp jaws			Weld and cover plates		Bolts	
	Box (pairs)		Bag (pairs)	Box (pieces)	Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA	AL					
1	500	250	25	100	25	250	50
2	250	150	25	100	25	250	50
3	250	100	25	100	25	250	50
4	250 (pieces)	-	-	25 (AP), 50 (DP)	-	100	-
5	120 (pieces)	-	-	25	-	25	-
TM 10				250	50		
TM 12				250	50		
Washer				-	50		
Build-up nut size 1 - 4				250	50		
Build-up nut size 5				100	-		
Stud size 1 - 3				250	50		
Stud size 4				250	-		
Stud size 5				100	-		

Packing details for twin clamps DIN 3015 Part 3

Twin clamp	Pairs of clamp jaws		Weld and cover plates			Bolts	
	Box (pairs)		Box (pieces)		Bag (pieces)	Box (pieces)	Bag (pieces)
	PP, PA		AP	DP			
1	1000	50	200	250	50	500	50
2	750	50	100	200	50	500	50
3	500	50	100	200	50	500	50
4	250	25	100	100	25	200	25
5	250	25	100	100	25	200	25
TMV 6 / TM6					50		
TM 8					25		
Build-up bolt the same as normal bolts							

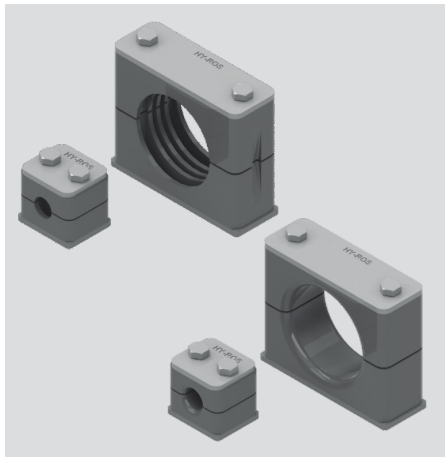
Note: Only available in given pack sizes

Comparison metrical / imperial measurements

Pipe outside Ø [mm]	Inches	Nominal bore
6	-	-
6.4	1/4	-
8	5/16	-
9.5	3/8	-
10	-	G 1/8
12	-	-
12.7	1/2	-
13.7	-	G 3/4
14	-	-
15	-	-
16	5/8	-
17.1	-	G 3/8
18	-	-
19	3/4	-
20	-	-
21.3	-	G 1/2
22	-	-
23	-	-
25	-	-
25.4	1	-
26.9	-	G 3/4
28	-	-

Pipe outside Ø [mm]	Inches	Nominal bore
30	-	-
32	1 1/4	-
33.7	-	G 1
35	-	-
38	1 1/2	G 1 1/8
40	-	-
42	-	G 1 1/4
44.5	1 3/4	-
48.3	-	G 1 1/2
50.8	2	-
54	-	-
57	2 1/4	-
60.3	-	G 2
63.5	2 1/2	-
65	-	-
70	-	-
73	-	-
76.1	3	G 2 1/2

Pipe outside Ø [mm]	Inches	Nominal bore
80	-	-
88.9	3 1/2	G 3
90	-	-
96	-	-
101.6	4	G 3 1/2
108	4 1/4	-
114.3	4 1/2	G 4
136	-	-
139.7	5 1/2	G 5
168	6 1/2	G 6
177.8	7	-
193.7	7 5/8	G 7
219.1	8 5/8	G 8
244.5	-	-
273	-	G 10
323.9	12 3/4	G 12
355.6	-	G 14
406.4	-	G 16



Light range to DIN 3015 Part 1

HRL, HRGL

Size	Pipe outside Ø [mm]
0	6.4
	8
	9.5
	10
	12
1	6
	6.4
	8
	9.5
	10
2	12
	12.7
	13.7
	14
	15
	16
	17.1
3	18
	19
	20
	21.3
	22
	23
4	25
	25.4
	26.9
	28
	30
5	32
	33.7
	35
	38
	40
	42
6	44.5
	48.3
	50.8
7	57.2
	60.3
	63.5
	70.0
	73.0
	76.1
8	88.9
	101.6

Model code

(also order example)

HRL 2 A 16 PP ST M BL

Range HRL = HY-ROS clamp, light range with ribbed internal surface

HRGL = HY-ROS clamp, light range with smooth internal surface

Size

0 = size 0

1 = size 1

2 = size 2 up to size 8

Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt

AV = with extended weld plate, cover plate and hex. head bolt

A1 = with cover plate and hex. head bolt

A1TM = with cover plate, hex. head bolt and mounting rail nut

B = with weld plate, hex. socket bolt and washer

BV = with extended weld plate, hex. socket bolt and washer

B1 = with hex. socket bolt and washer

B1TM = with hex. socket bolt, washer and mounting rail nut

C = with weld plate, slotted-head bolt and washer

CV = with extended weld plate, slotted-head bolt and washer

C1 = with slotted-head bolt and washer

C1TM = with slotted-head bolt, washer and mounting rail nut

D = with build-up bolt and locking plate

Pipe diameter

Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

TPE = thermoplastic elastomer

AL = aluminium (sizes 0, 7, 8 on request)

Material of steel parts

ST = steel

A = stainless steel (on request)

A4 = stainless steel (on request)

Thread type

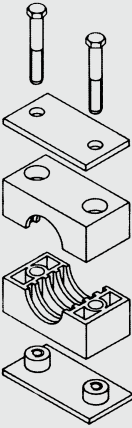
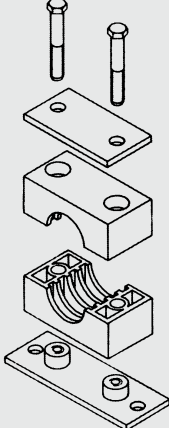
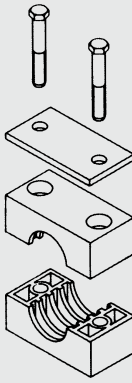
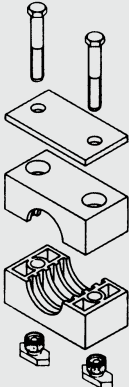
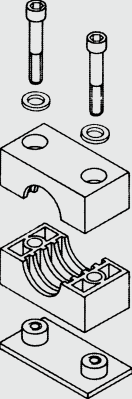
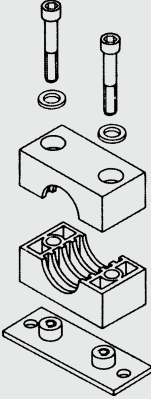
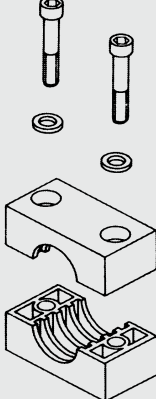
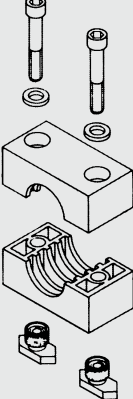
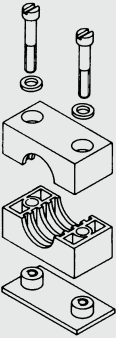
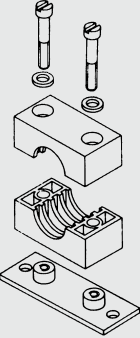
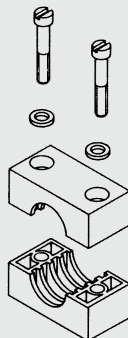
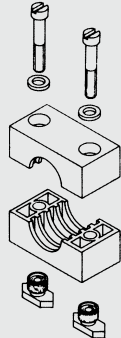
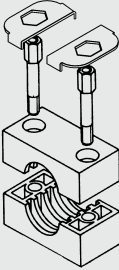
M = metric thread

Plating of steel parts

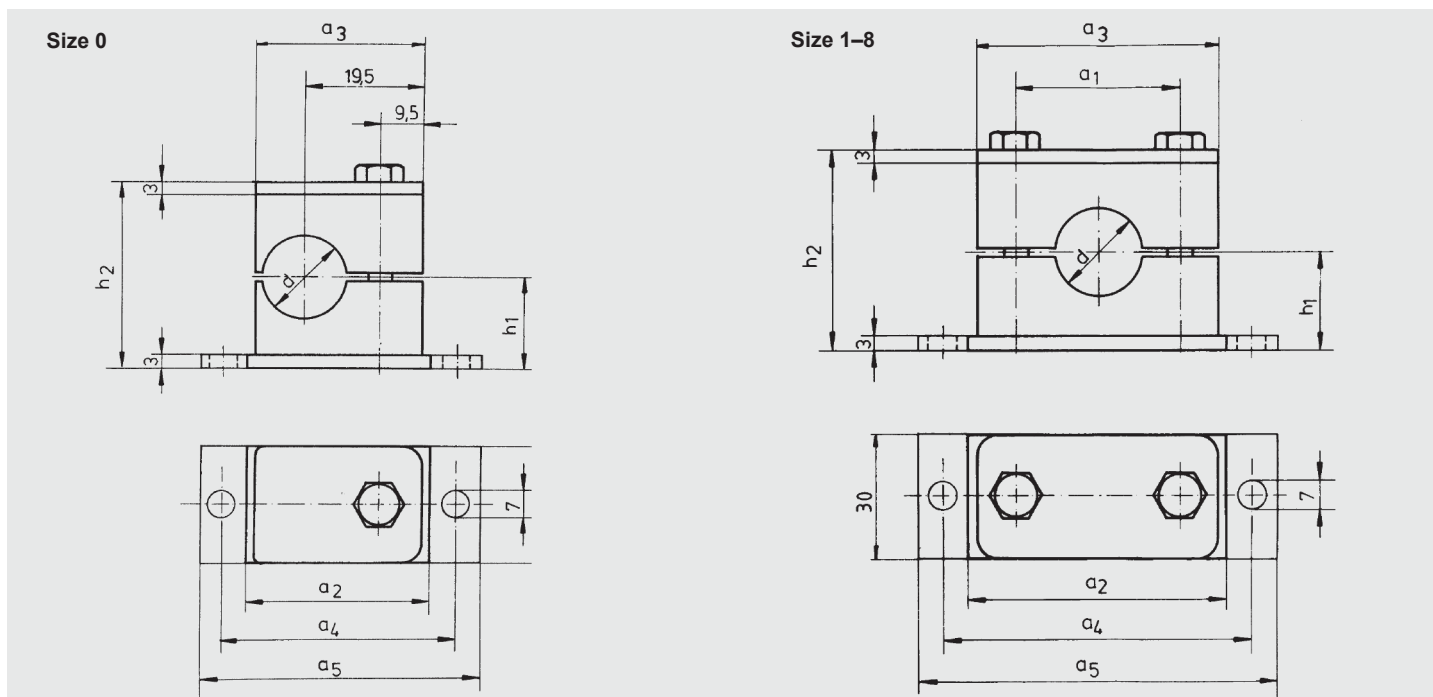
BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated Others on request

Note: Exposed parts may show signs of flash rust!

Models for light range DIN 3015 Part 1

Model A Size 0–8	Model AV Size 0–8	Model A1 Size 0–8	Model A1TM Size 0–8
			
Model B Size 0–8	Model BV Size 0–8	Model B1 Size 0–8	Model B1TM Size 0–8
			
Model C Size 0 - 6	Model CV Size 0 - 6	Model C1 Size 0 - 6	Model C1TM Size 0 - 6
			
Model D Size 0 - 6	Note: No washers are required in the AL version for series B and C.		
			

Dimensions for light range DIN 3015 Part 1



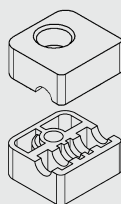
Size	Dimensions [mm]							Hex. head	Hex. socket	Stud	Slotted head
	a1	a2	a3	a4	a5	h1	h2	ISO 4014	ISO 4762	DIN 938	ISO 1207
0	-	30	28	44	58	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20
1	20	36	36	50	64	16	32	M6 x 30	M6 x 20	M6 x 20	M6 x 20
2	26	42	40	56	70	19.5	39	M6 x 35	M6 x 25	M6 x 25	M6 x 25
3	33	50	48	64	78	20.5	41	M6 x 40	M6 x 30	M6 x 30	M6 x 30
4	40	60	57	73	87	24	48	M6 x 45	M6 x 35	M6 x 35	M6 x 35
5	52	72	70	86	100	32	64	M6 x 60	M6 x 50	M6 x 50	M6 x 50
6	66	88	86	100	116	36	72	M6 x 70	M6 x 60	M6 x 60	M6 x 60
7	94	122	121	136	150	51.5	103	M6 x 100	M6 x 85	-	-
8	120	148	147	162	178	64	128	M6 x 125	M6 x 110	-	-

NOTE: For sizes 7 and 8, the cover plate and weld plate are 5 mm thick.

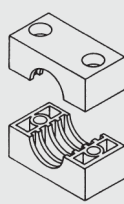
Individual parts for light range DIN 3015 Part 1

Pair of clamp jaws, ribbed (HRL...KP...)

Size 0

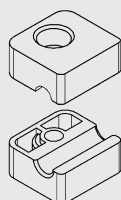


Size 1 - 8

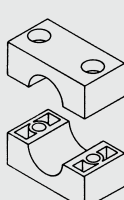


Pair of clamp jaws, smooth (HRL...KP...)

Size 0



Size 1 - 8



Model code

(also order example)

HRL 3 KP 23 PP

Range HRL = HY-ROS clamp, light range with ribbed internal surface

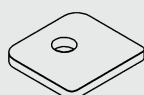
HRGL = HY-ROS clamp, light range with smooth internal surface

Size (as per dimensions)

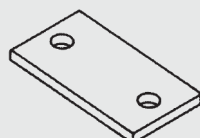
Designation KP = pair of clamp jaws **Pipe diameter** **Material of clamp jaws** PP = polypropylene PA = polyamide PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3 TPE = thermoplastic elastomer AL = aluminium (sizes 0, 7, 8 on request)

Cover plate (DP)

Size 0



Size 1 - 8



Model code

(also order example)

HRL 3 DP ST ZN

Range HRL = HY-ROS light range **Size**

(as per dimensions) **Designation** DP =

cover plate **Material of steel parts** ST

= steel A2 = stainless steel (on request)

A4 = stainless steel (on request)

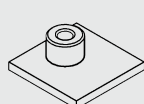
Plating of steel parts

BL = unplated Others on request

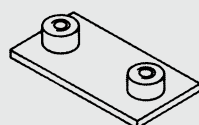
Note: Exposed parts may show signs of flash rust!

Weld plate (AP)

Size 0

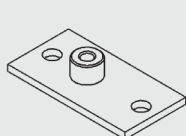


Size 1 - 8

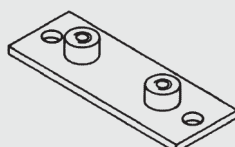


Extended weld plate (APV)

Size 0



Size 1 - 8



Model code

(also order example)

HRL 2 AP ST M BL

Range HRL = HY-ROS light range **Size**

(as per dimensions)

Designation AP =

weld plate

APV = extended weld plate **Material of**

steel parts ST = steel A2 = stainless

steel (on request) A4 = stainless steel

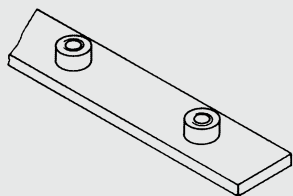
(on request) **Thread type** M = metric

thread **Plating of steel parts** BL =

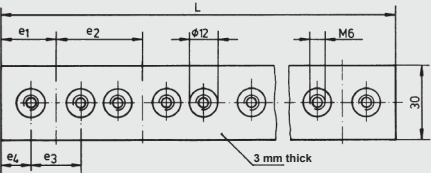
unplated Others on request

Note: Exposed parts may show signs of flash rust!

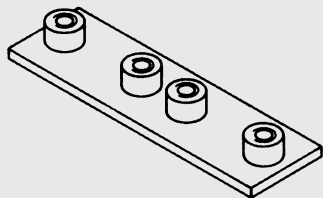
Interconnecting weld plate (RAP)



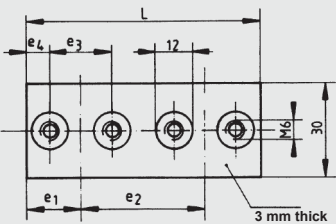
Dimensions



Double weld plate (DAP)



Dimensions



Model code
(also order example)

HRL 2a RAP ST M BL

Range
HRL = HY-ROS light range

Size
(as per dimensions)

Designation
RAP = interconnecting weld plate

Material of steel parts
ST = steel
A = stainless steel (on request)
A = stainless steel (on request)

Thread type
M = metric thread

Plating of steel parts
BL = unplated
Others on request

Note: Exposed parts may show signs of flash rust!

Size	Number of clamps	Dimensions [mm]					
e1 e3 e4 L 0 10 30 298 --- 1b 10 17 40 20 7 39 42		a 10 20 43 26 26					
					7		427
2b	10	20	52		7		508
3a 33 3b 24	75 33 10	24			7.5		516
	10				7.5		723
4	5	28.5	60	40	8.5		297
5	5	35	75	52	9		370
6	5	43	90	66	10		446

Model code
(also order example)

HRL 2a DAP ST M BL

Range
HRL = HY-ROS light range

Size
(as per dimensions)

Designation
DAP = double weld plate

Material of steel parts
ST = steel
A2 = stainless steel (on request)
A4 = stainless steel (on request)

Thread type M = metric thread

Plating of steel parts
BL = unplated
Others on request

Note: Exposed parts may show signs of flash rust!

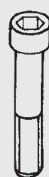
Size	Number of clamps	Dimensions [mm]					
2 18 40 20 8 75 2a 2 21.5 43 26 8.5 86 2b 2 21 52							
26 8 94 3a 2 26 52 33 9.5 104 3b 2 25 75 33 8.5 125 4 2 28.5 60 40 8.5 117 5 2 35 75 52							
9 145 6 2 43 90 66 10 176							

Bolts

Hex. head bolt ISO 4014



Hex. socket cap bolt ISO 4762



Slotted-head bolt ISO 1207



Model code (also order example)

6kt-shr.ISO4014 - M6 x 30 - 8.8 A3B

Range 6kt-shr.ISO4014 = hex. head bolt to ISO 4014

Zyl-shr.ISO4762 = hex. socket bolt to ISO 4762

Zyl-shr.ISO1207 = slotted-head bolt to ISO 1207

Size

ISO4014 ISO4762 ISO1207 for HRL size M6 x 30 M6 x 20 M6 x 20 0+1 M6 x 35 M6 x 25 M6 x 25 2 M6 x 40 M6 x 30 M6 x 30 3 M6 x 45 M6 x 35 M6 x 35 4 M6 x 60 M6 x 50 M6 x 50 5 M6 x 70 M6 x 60 M6 x 60 6 M6 x 100 M6 x 85 - 7 8

M6 x 125 M6 x 110 -

Bolt quality

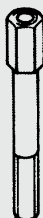
8.8 4.6 Bolt = to ISO 4014, ISO 4762

= to ISO 1207 =

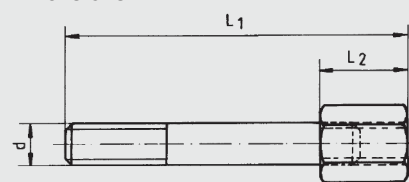
plating A3B zinc-plated

Others on request

Build-up bolt (AF)



Dimensions



Size	Dimensions [mm]		
	L1	L2	L3
0+1	34	14	M6
2	39	14	M6
3	44	14	M6
4	49	14	M6
5	64	14	M6
6	74	14	M6

NOTE: Size 7 + 8 on request

Model code

(also order example)

HRL 4 AF ST M ZN

Range

HRL = HY-ROS light range

Size (as per dimensions)

Designation AF = build-up bolt

Material of steel parts ST = steel A2 =

stainless steel (on request) A4 =

stainless steel (on request)

Thread type

M = metric thread

Plating of steel parts

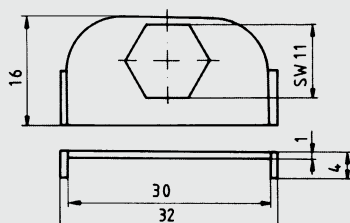
ZN = zinc-plated

Others on request

Locking plate (SIP)



Dimensions (for all sizes)



Model code

(also order example)

HRL 0 SIP ST ZN

Range HRL = HY-ROS light

range **Size** 0 = for all sizes

Designation SIP = locking plate

Material of steel parts ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

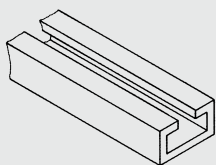
Plating of steel parts

ZN = zinc-plated

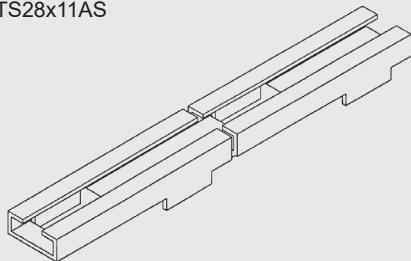
Others on request

C mounting rail (TS)

C mounting rail TS

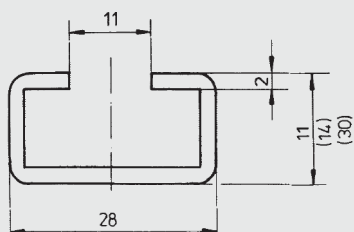


C mounting rail with weld struts
TS28x11AS

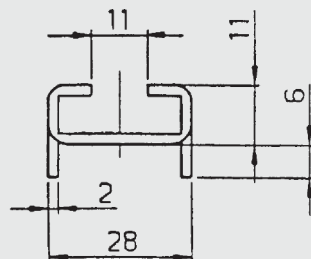


Dimensions

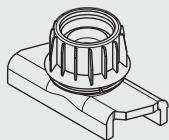
C mounting rail TS available in
1 m and 2 m pieces



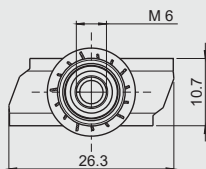
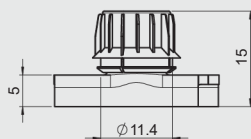
C mounting rail with weld struts
available in 1 m pieces



Mounting rail nut (TM)



Dimensions



Model code

(also order example)

HRL TS28x11 ST BL 1m

Range

HRL = HY-ROS light range

Model

TS28x11 = C mounting rail 28x11

TS28x14 = C mounting rail 28x14

TS28x30 = C mounting rail 28x30

TS28x11AS = C mounting rail with weld struts 28x11

Material of steel parts

ST steel =

AL = aluminium (on request)

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Plating of steel parts

BL unplated

ZN = zinc-plated

Others on request

Length

1 m

2 m (not for C mounting rail with weld struts)

Other lengths on request

Note: Exposed parts may show signs of flash rust!

Model code

(also order example)

HRL TMV6 ST ZN

Range

HRL = HY-ROS light range

Designation

TMV6 = mounting rail nut with anti-twist protection, size M6 (standard)

TM6 = mounting rail nut without anti-twist protection, size M6

Material of steel parts

ST steel =

A = stainless steel (on request)

Plating of steel parts

ZN = zinc-plated

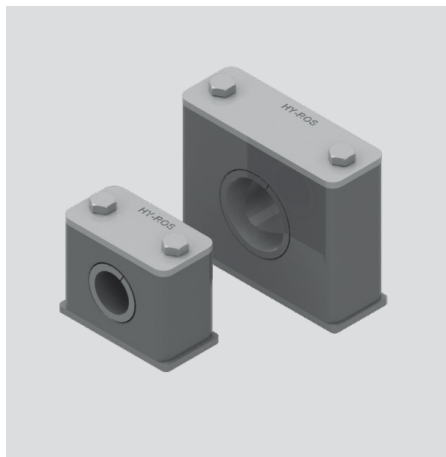
Others on request

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department.

The operator is always responsible for determining the product suitability for the specific application. Quantified values for product characteristics are average values for a new product that undergo a time deterioration process.

Subject to technical modifications and errors.

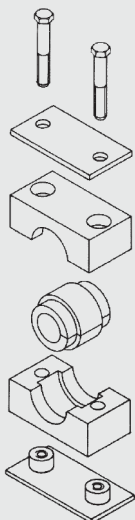


Light range with elastomer insert to DIN 3015 Part 1

HREL, HRERL

Size d	internal surface smooth [mm]	d internal surface ribbed [mm]
4	6	-
	8	-
	10	10
	12	12
	12.7	-
	14	14
	15	15
	16	16
	17.2	17.2
	18	-
	19	-
6	20	20
	21.3	-
	22	22
	23	-
	25	25
	26.9	-
	28	28
	30	30
	32	-

Model A Size 4, 6



Model code

(also order example)

HREL 4 A 16 PP ST M BL

Range

HREL = HY-ROS clamp, light range, elastomer insert with smooth internal surface

HRERL = HY-ROS clamp, light range, elastomer insert with ribbed internal surface

Size

4 = size 4

6 = size 6

Model for complete clamps

(pair of clamp jaws not mentioned)

A = with elastomer insert, weld plate, cover plate and hex. head bolt

Pipe diameter

Material of clamp jaws

PP = polypropylene PA =

polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Thread type

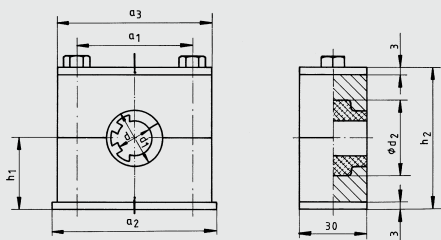
M = metric thread

Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated Others on request

Note: Exposed parts may show signs of flash rust!

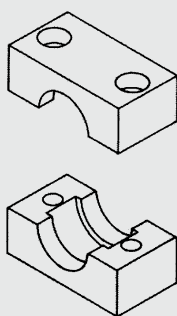
Dimensions



Size	Dimensions [mm]							Hex. head	Hex. socket	Stud	Slotted head
	d1	d2	a1	a2	a3	h1	h2	ISO 4014	ISO 4762	DIN 938	ISO 1207
4	25.5	31	40	59	57	23.5	47	M6 x 45	M6 x 35	M6 x 35	M6 x 35
6	39	46	66	88	86	35.5	71	M6 x 70	M6 x 60	M6 x 60	M6 x 60

Individual parts

Pair of clamp jaws (KP) Size 4, 6



Model code

(also order example)

HREL 4 KP PP

Range

HREL = HY-ROS clamp, light range, with elastomer insert

Size

4 = size 4
6 = size 6

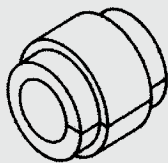
Designation

KP = pair of clamp jaws

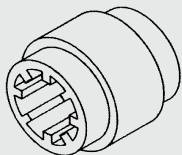
Material of clamp jaws

PP = polypropylene
PA = polyamide
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

Elastomer insert smooth (HRES...EE...) Size 2/4L, 3/6L



Elastomer insert ribbed (HRERS...EE...) Size 2/4L, 3/6L



Model code

(also order example)

HRES 2/4L EE 16 TPE

Range

HRES = elastomer insert, internal surface smooth
HRERS = elastomer insert, internal surface ribbed

Size

2/4L = size 2 (HRS), size 4 (HRL)
3/6L = size 3 (HRS), size 6 (HRL)

Designation

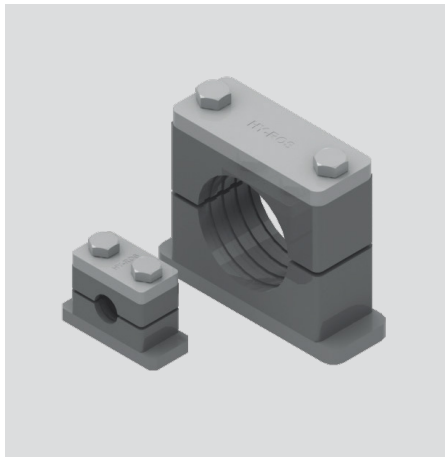
EE = elastomer insert

Pipe diameter

(as per dimensions)

Insert material

TPE = thermoplastic elastomer



Heavy range to DIN 3015 Part 2

HRS, HRGS

Size	Pipe outside Ø [mm]	
1	6	13.7
	6.4	14
	8	15
	9.5	16
	10	17.1
	12	18
2	12.7	
	19	25.4
	20	26.9
	21.3	28
	22	30
3	25	35
	30	38
	32	40
	33.7	42
4	30	55
	38	57
	42	60.3
	44.5	63.5
	48.3	65
5	50.8	70
	38	76.1
	65	80
	70	88.9
6	73	
	65	114.3
	96	127
7	101.6	
	108	
	90	
	136	
8	139.7	
	168	
	168	
	177.8	
9	193.7	
	219.1	
	219.1	
	244.5	
10	273	
	323.9	
	355.6	
	406.4	

Model code (also order example)

HRS 2 A 30 PP ST M BL

Range

HRS = HY-ROS clamp, heavy range with ribbed internal surface

HRGS = HY-ROS clamp, heavy range with smooth internal surface (on request)

Size

1 = size 1

2 = size 2

3 = size 3 up to size 10

Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt

AV = with extended weld plate, cover plate and hex. head bolt

A1 = with cover plate and hex. head bolt

A1TM = with cover plate, hex. head bolt and mounting rail nut (only up to size 4)

B = with weld plate, hex. socket bolt and washer (only up to size 7)

D = with build-up bolt and locking plate (only up to size 7)

G = with double weld plate, double cover plate and hex. head bolt

Pipe diameter

Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

TPE = thermoplastic elastomer

AL = aluminium

Material of steel parts

ST = steel

A = stainless steel (on request)

A = stainless steel (on request)

Thread type

M = metric thread

Plating of steel parts

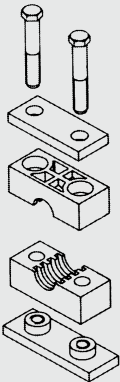
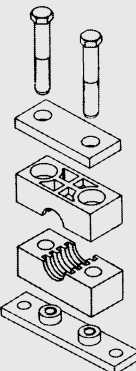
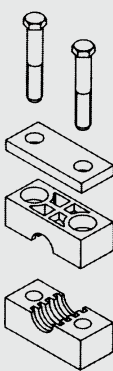
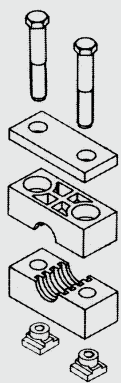
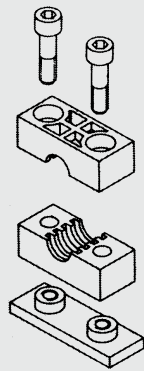
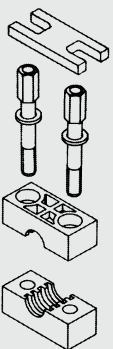
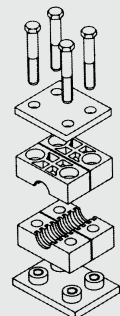
BL = weld plate unplated, cover plate zinc-plated, bolts unplated (from size 8 cover plate unplated)

BL/ZN = weld plate unplated, cover plate zinc-plated, bolts zinc-plated

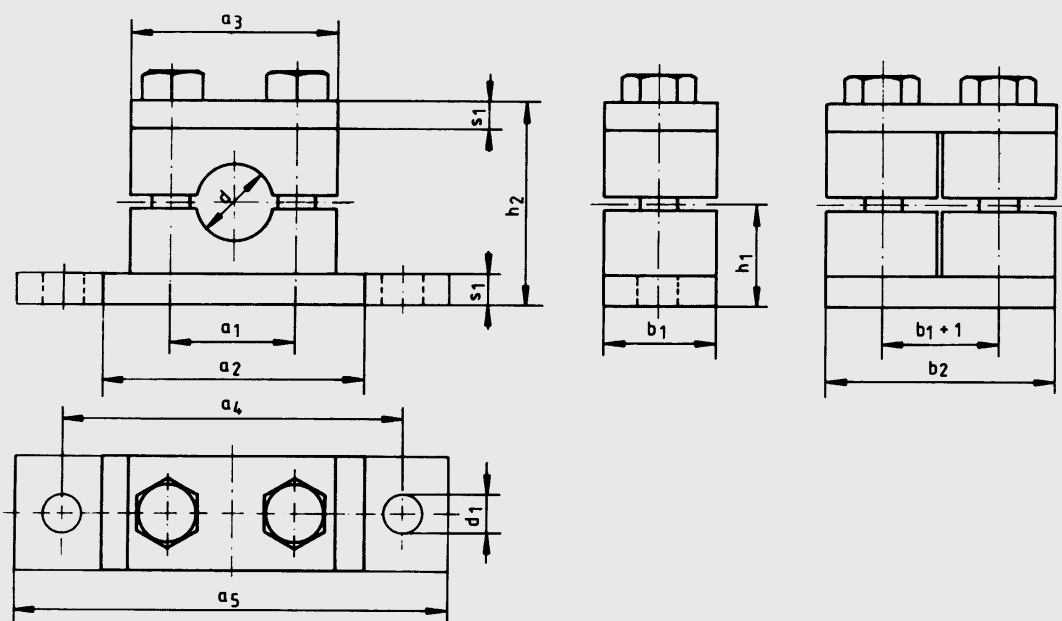
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

Note: Exposed parts may show signs of flash rust!

Models for heavy range DIN 3015 Part 2

<p>Model A Size 1–10</p> 	<p>Model AV Size 1–10</p> 	<p>Model A1 Size 1–10</p> 	<p>Model A1TM Size 1–4</p> 
<p>Model B Size 1–7</p> 	<p>Notice: No washers are required in the AL version for series B.</p>		
<p>Model D Size 1–7</p> 			
<p>Model G Size 1–10</p> 			

Dimensions for heavy range DIN 3015 Part 2

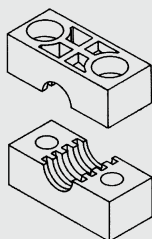


Size	Dimensions [mm]												Hex. head	Hex. socket
	a1	a2	a3 PA, PP	a3 AL	a4	a5	b1	b2	h1	h2	s1	d1	ISO 4014	ISO 4762
1	33	73	55	57	85	113	30	60	24	48	8	11	M10 x 45	M10 x 25
2	45	85	70	70	97 125	112 140	30 60	60	32	64	8	11	M10 x 60	M10 x 40
3	60	100	85	85					38	76	8	11	M10 x 70	M10 x 50
4	90.5	140	115	119	160	190	45	90	54.5	109	10	14	M12 x 100	M12 x 80
5	122	180	152	160	205	240	60	120	70	140 10		18	M16 x 130	M16 x 110
6	168	225 205		215	270 310		80	160	100 200	115	15	22	M20 x 190	M20 x 150
7	205	270	252	258	320	370	90	180		230	15	26	M24 x 220	M24 x 180
8	265	340 320		323	-	-	120	240	160	320	25	-	M30 x 300	-
9	395	520 466		475	-	-	160	324	235	470	30	-	M30 x 450	-
10	530	680 630		630	-	-	180	364	295	590	30	-	M30 x 560	-

Individual parts for heavy range DIN 3015 Part 2

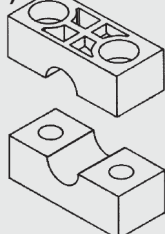
Pair of clamp jaws, ribbed (HRS...KP...)

Size 1 - 10



Pair of clamp jaws, smooth (HRGS...KP...)

Size 1 - 10



Model code

(also order example)

HRS 3 KP 23 PP

Range HRS = HY-ROS clamp, heavy range with ribbed internal surface
HRGS = HY-ROS clamp, heavy range with smooth internal surface

Size

(as per dimensions)

Designation

KP = pair of clamp jaws

Pipe diameter

Material of clamp jaws

PP = polypropylene

PA = polyamide

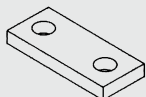
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

TPE = thermoplastic elastomer

AL = aluminium (not for HRGS)

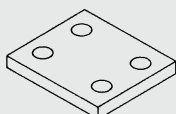
Cover plate (DP)

Size 1 - 10



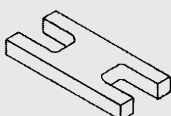
Double cover plate (DDP)

Size 1 - 10



Locking plate (SIP)

Size 1 - 7



Model code

(also order example)

HRS 2 DP ST BL

Range HRS = HY-ROS heavy range

Size (as per dimensions) **Designation** DP = cover plate
DDP = double cover plate
SIP = locking plate (only up to size 7)

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Plating of steel parts

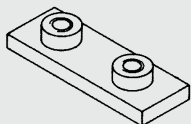
BL = unplated = zinc-plated (only up to size 7)

ZN = to size 7)

Note: Exposed parts may show signs of flash rust!

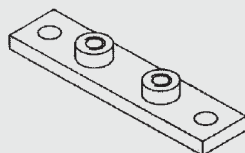
Weld plate (AP)

Size 1 - 10



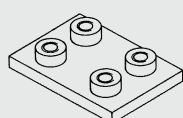
Extended weld plate (APV)

Size 1 - 10



Double weld plate (DAP)

Size 1 - 10



Model code

(also order example)

HRS 2 APV ST M BL

Range HRS = HY-ROS heavy range **Size**

(as per dimensions)

Designation

AP = weld plate

APV = extended weld plate

DAP = double weld plate

Material of steel parts ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Thread type M = metric thread

Plating of steel parts

BL = unplated

ZN = zinc-plated

Note: Exposed parts may show signs of flash rust!

Bolts

Hex. head bolt ISO 4014
HRS size 1 -10



Hex. socket bolt ISO 4762
HRS size 1 -7



Model code

(also order example)

6kt-shr.ISO4014 - M10 x 70 - 8.8 A3B

Range

6kt-shr.ISO4014 = hex. head bolt to ISO 4014
Zyl-shr.ISO4762 = hex. socket bolt to ISO 4762

Size

ISO4014	ISO4762*	for HRS size
M10 x 45	M10 x 25	1
M10 x 60	M10 x 40	2
M10 x 70	M10 x 50	3
M12 x 100	M12 x 80	4
M16 x 130	M16 x 110	5
M20 x 190	M20 x 150	6
M24 x 220	M24 x 180	7
M30 x 300		8
M30 x 450		9
M30 x 560		10

* only AL version

Bolt quality

8.8 = to ISO 4014, ISO 4762

Bolt plating

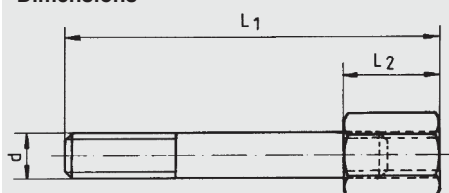
no details = unplated =
A3B zinc-plated

Note: Exposed parts may show signs of flash rust!

Build-up bolt (AF)



Dimensions



Size	Dimensions [mm]		
	L1	L2	d
1	50	25	M10
2	65	25	M10
3	75	25	M10
4	106	26	M12
5*	145	35	M16
6*	200	50	M20
7*	236	56	M24

* without washer

Model code

(also order example)

HRS 5 AF16 ST M ZN

Range HRS = HY-ROS heavy range

Size

(as per dimensions)

Designation AF10 = build-up

bolt M10

AF12 = build-up bolt M12

AF16 = build-up bolt M16

AF20 = build-up bolt M20

AF24 = build-up bolt M24

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Thread type

M = metric thread

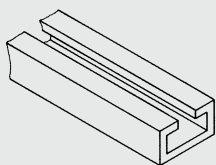
Plating of steel parts

BL = unplated

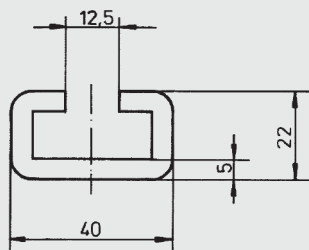
ZN = zinc-plated

Note: Exposed parts may show signs of flash rust!

C mounting rail (TS)

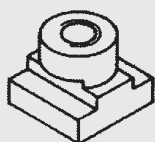


Dimensions



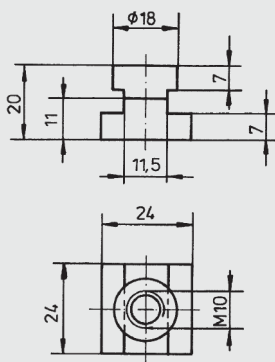
Notice: available in 1 m and 2 m pieces

Mounting rail nut (TM)

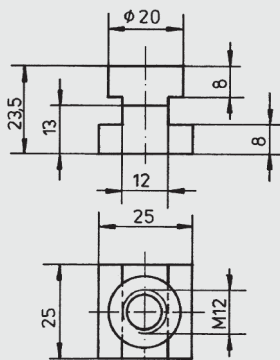


Dimensions

Mounting rail nut TM10



Mounting rail nut TM12



Model code (also order example)

HRS TS40x22 ST BL 2m

Range

HRS = HY-ROS heavy range

Model

TS40x22 = C mounting rail 40x22

Material of steel parts

ST = steel

A2 = stainless steel (on request) A4

= stainless steel (on request)

Plating of steel parts

BL = unplated ZN

= zinc-plated

Length

1 m

2 m

Other lengths on request

Note: Exposed parts may show signs of flash rust!

Model code (also order example)

HRS TM10 ST M ZN

Range

HRS = HY-ROS heavy range

Designation TM10 = mounting rail nut

size M10 TM12 = mounting rail nut

size M12

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

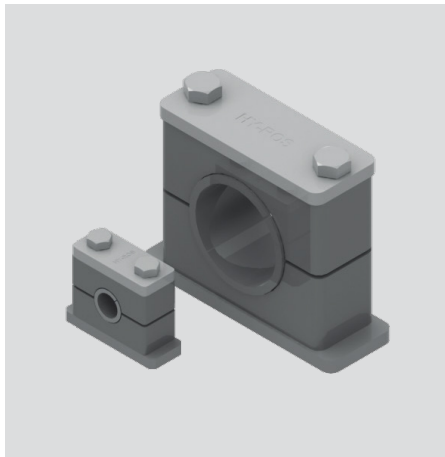
Thread type

M = metric thread

Plating of steel parts

ZN = zinc-plated

Others on request



Heavy range with elastomer insert to DIN 3015 Part 2

HRES, HRERS

Size	d internal surface smooth [mm]	d internal surface ribbed [mm]
2	6	-
	8	-
	10	10
	12	12
	12.7	-
	14	14
	15	15
	16	16
	17.2	17.2
	18	-
	19	-
3	20	20
	21.3	-
	22	22
	23	-
	25	25
	26.9	-
	28	28
	30	30
4	32	-
	33.7	-
	35	-
	38	38
	40	-
	42	42
	45.5	44.5
	48	48
	51	-
	53.4	-
5	56.4	57
	60	-
	65	-
	70	-
	73	-
6	76	76
	83	-
	89	89
	94	-
7	101	-
	108	108
	114	-
	133	-
	140	-

Model code (also order example)

HRES 2 A 16 PP ST M BL

Range

HRES = HY-ROS clamp, heavy range, elastomer insert with smooth internal surface

HRERS = HY-ROS clamp, heavy range, elastomer insert with ribbed internal surface

Size

2 = size 2
3 = size 3
4 = size 4
5 = size 5
6 = size 6
7 = size 7

Model for complete clamps

(pair of clamp jaws not mentioned)

A = with elastomer insert, weld plate, cover plate and hex. head bolt

Pipe diameter

Material of clamp jaws

PP = polypropylene

PA = polyamide

PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Thread type

M = metric thread

Plating of steel parts

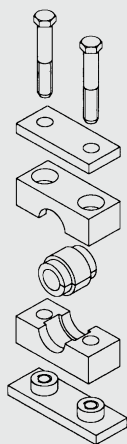
BL = weld plate unplated, cover plate zinc-plated, bolts unplated

BL/ZN = weld plate unplated, cover plate zinc-plated, bolts zinc-plated

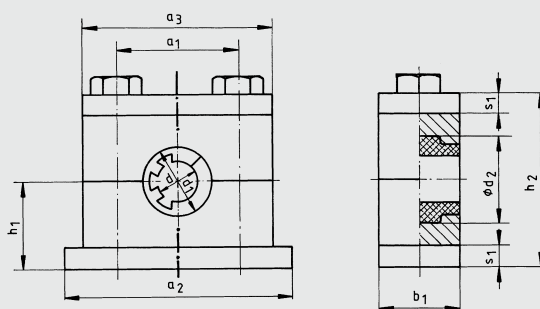
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

Note: Exposed parts may show signs of flash rust!

Model A Size 2-7



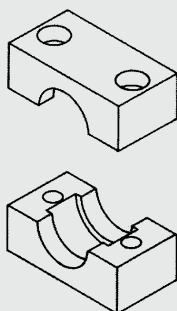
Dimensions



Size	Dimensions [mm]										Hex. head		
	d1	d2	b1	h1	31	37	h2	a1	a2	a3	s1	ISO 4014	
2	25.5	31	30	53.5	68.5	62		45	60	85	70	8	M10 x 60
3	39	46	30	98.5	113.5	74		90.5	100	85		8	M10 x 70
4	65	74	45	227			107	122	140	115		10	M12 x 100
5	89	98	60				137	168	180	152		10	M16 x 130
6	116	132	80				197		225	205		15	M20 x 190
7	154	168	90					205	270	252		15	M24 x 220

Individual parts

Pair of clamp jaws (KP) Size 2 - 7



Model code

(also order example)

HRES 4 KP PP

Range

HRES = HY-ROS clamp, heavy range, with elastomer insert

Size

2 = size 2
3 = size 3
4 = size 4 =
5 = size 5 =
6 = size 6 =
7 = size 7

Designation

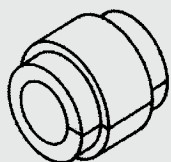
KP = pair of clamp jaws

Material of clamp jaws

PP = PA polypropylene =
polyamide
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3

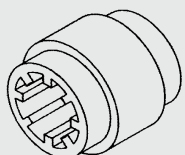
Elastomer insert smooth (HRES...EE...)

Size 2/4L, 3/6L, 4, 5, 6, 7



Elastomer insert ribbed (HRES...EE...)

Size 2/4L, 3/6L, 4, 5, 6, 7



Model code

(also order example)

HRES 2/4L EE 16 TPE

Range

HRES = elastomer insert, internal surface smooth
HRES = elastomer insert, internal surface ribbed

Size

2/4L = size 2 (HRS), size 4 (HRL)
3/6L = size 3 (HRS), size 6 (HRL)
4 = size 4
5 = size 5
6 = size 6
7 = size 7

Designation

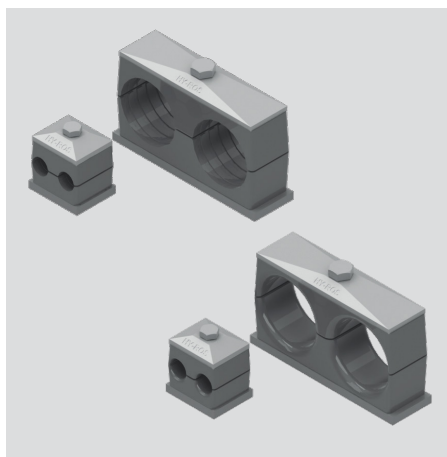
EE = elastomer insert

Pipe diameter (as per dimensions)

Insert material

TPE = thermoplastic elastomer =
NBR* acrylonitrile butadiene elastomer

* only sizes 5 - 7



Twin clamps to DIN 3015 Part 3

HRZ, HRGZ

Size	Pipe outside Ø [mm]
1	6
	6.4
	8
	9.5
	10
	12
2	12.7
	13.7
	14
	15
	16
	17.1
3	18
	19
	20
	21.3
	22
	23
4	25
	25.4
	26.9
	28
5	30
	32
	33.7
	35
	38
	40
	42

Model code (also order example)

HRZ 2 A 16-16 PP ST M BL

Range

HRZ = HY-ROS twin clamp with ribbed internal surface
HRGZ = HY-ROS twin clamp with smooth internal surface

Size

1 = size 1
2 = size 2 up to size 5

Model for complete clamps

(pair of clamp jaws not mentioned)

A = with weld plate, cover plate and hex. head bolt
A1 = with cover plate and hex. head bolt
A1TM = with cover plate, hex. head bolt and mounting rail nut
D = with build-up bolt and locking plate

Pipe diameter

(specification of each Ø as per pipe outside Ø)

Material of clamp jaws

PP = polypropylene
PA = polyamide
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3
TPE = thermoplastic elastomer

Material of steel parts

ST = steel
A2 = stainless steel (on request)
A4 = stainless steel (on request)

Thread type

M = metric thread

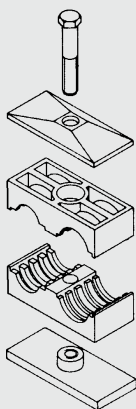
Plating of steel parts

BL = weld plate unplated, cover plate zinc-plated, bolts zinc-plated (only model A)
ZN = weld plate zinc-plated, cover plate zinc-plated, bolts zinc-plated

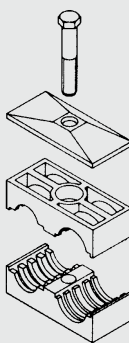
Note: Exposed parts may show signs of flash rust!

Models for twin clamps to DIN 3015 Part 3

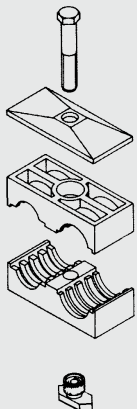
Model A
Size 1 - 5



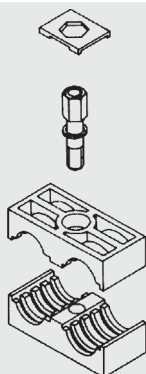
Model A1
Size 1 - 5



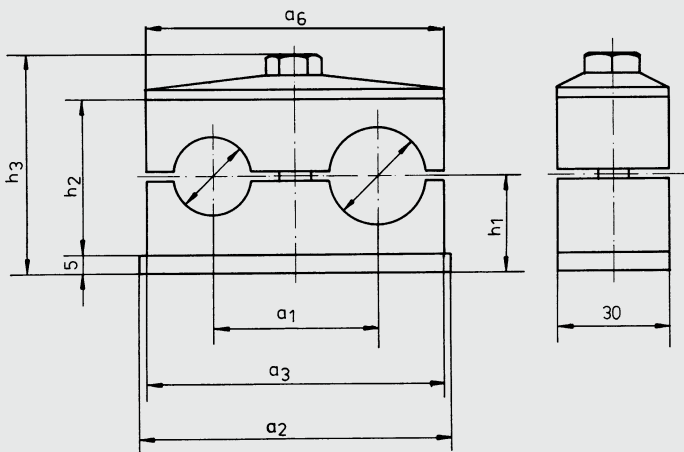
Model A1TM
Size 1 - 5



Model D
Size 1 - 5



Dimensions

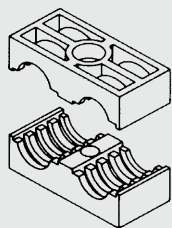


Size	Dimensions [mm]							Hex. head bolt ISO 4014
	a1	a2	a3	a6	h1	h2	h3	
1	20	37	36	34	18.5	27	43	M6 x 35
2	29	55	53	51	18	26	43.5	M8 x 35
3	36	70	67	64	23.5	37	54.5	M8 x 45
4	45	85	82	78	26	42	59.5	M8 x 50
5	56	110	106	102	32	54	71.5	M8 x 60

Individual parts for twin clamps DIN 3015 Part 3

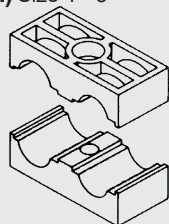
Pair of clamp jaws, ribbed (HRZ...KP...)

Size 1 - 5



Pair of clamp jaws, smooth (HRGZ...KP...)

Size 1 - 5



Model code

(also order example)

HRZ 3 KP 23-23 PP

Range

HRZ = HY-ROS twin clamp with ribbed internal surface
HRGZ = HY-ROS twin clamp with smooth internal surface

Size

1 = size 1
2 = size 2
up to size 5

Designation

KP = pair of clamp jaws

Pipe diameter

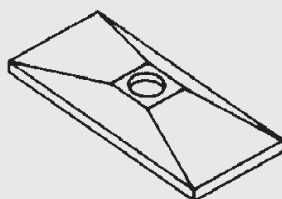
(specification of each Ø as per pipe outside Ø)

Material of clamp jaws

PP = polypropylene PA
polyamide
PAFF = polyamide, flame-retardant to EN 45545-2 R22, R23, HL3
TPE = thermoplastic elastomer
Others on request

Cover plate (DP)

Size 1 - 5



Model code

(also order example)

HRZ 3 DP ST BL

Range

HRZ = HY-ROS twin clamp

Size (as per dimensions)

Designation

DP = cover plate

Material of steel parts

ST = steel = stainless steel (on request)
A2 = stainless steel (on request)
A4 = stainless steel (on request)

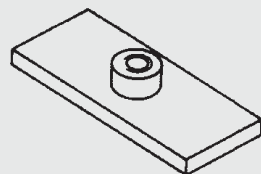
Plating of steel parts

BL = unplated
Others on request

Note: Exposed parts may show signs of flash rust!

Weld plate (AP)

Size 1 - 5



Model code (also order example)

HRZ 2 AP ST M BL

Range

HRZ = HY-ROS twin clamp

Size (as per dimensions)

Designation

AP = weld plate

Material of steel parts

ST = steel = stainless steel (on request)
A2 = stainless steel (on request)
A4 = stainless steel (on request)

Thread type

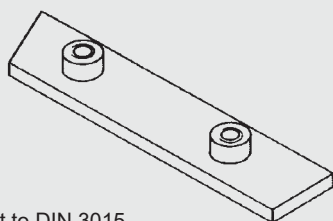
M = metric thread

Plating of steel parts

BL = unplated Others on request

Note: Exposed parts may show signs of flash rust!

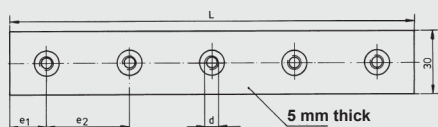
Interconnecting weld plate (RAP)*



*not to DIN 3015

Dimensions

Size	Number of clamps	L1	L2	L	d
1	5	18	40	196	M6
2	5	28	58	288	M8
3	5	35	72	358	M8
4	5	43	90	446	M8
5	5	55	112	558	M8

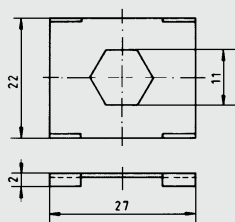


Locking plate (SIP)

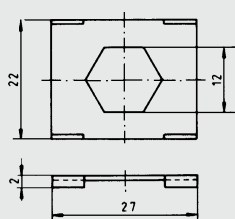


Dimensions

Size 1



Size 2 - 5



Model code (also order example)

HRZ 2 RAP ST M BL

Range

HRZ = HY-ROS twin clamp

Size

(as per dimensions)

Designation

RAP = interconnecting weld plate

Material of steel parts

ST = steel

A = stainless steel (on request)

A = stainless steel (on request)

Thread type

M = metric thread

Plating of steel parts

BL = unplated

Others on request

Note: Exposed parts may show signs of flash rust!

Model code (also order example)

HRZ 2-5 SIP ST ZN

Range HRZ = HY-ROS twin clamp

Size

1 = size 1

2-5 = size 2-5

Designation

SIP = locking plate

Material of steel parts

ST steel =

A2 = stainless steel (on request)

A4 = stainless steel (on request)

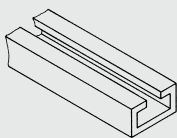
Plating of steel parts

ZN = zinc-plated

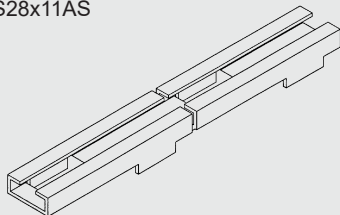
Others on request

C mounting rail (TS)

C mounting rail TS

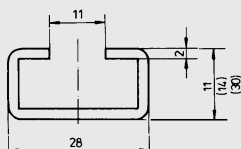


C mounting rail with weld struts
TS28x11AS

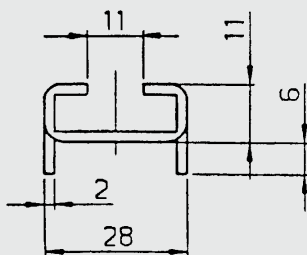


Dimensions

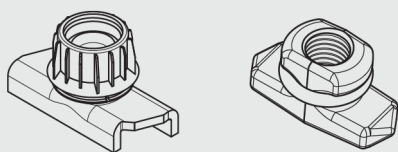
C mounting rail TS available in
1 m and 2 m pieces



C mounting rail with weld struts
available in 1 m pieces



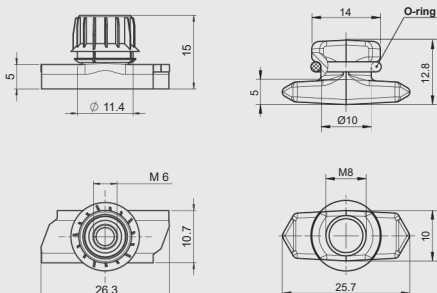
Mounting rail nut (TM)



Dimensions

Size 1 (TMV6)

Size 2 - 5 (TM8)



Model code

(also order example)

HRL TS28x11 ST BL 1m

Range

HRL = HY-ROS light range

Model

TS28x11 = C mounting rail 28x11

TS28x14 = C mounting rail 28x14

TS28x30 = C mounting rail 28x30

TS28x11AS = C mounting rail with weld struts 28x11

Material of steel parts

ST steel =

AL A2 = stainless steel (on request) A4

= stainless steel (on request)

Plating of steel parts

BL = unplated

ZN = zinc-plated

Others on request

Length

1 m

2 m (not for C mounting rail with weld struts)

Other lengths on request

Note: Exposed parts may show signs of flash rust!

Model code

(also order example)

HRL TMV6 ST ZN

Range HRL = HY-ROS light range, for size

1

HRZ = HY-ROS twin clamp, from size 2

Designation

TMV6 = mounting rail nut with anti-twist protection, M6 (only size 1)

TM6 = mounting rail nut without anti-twist protection, M6 (only size 1)

TM8 = mounting rail nut M8 (from size 2)

Material of steel parts

ST steel =

A4 = stainless steel (on request)

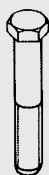
Plating of steel parts

ZN = zinc-plated

Others on request

Bolts

Hex. head bolt ISO 4014
HRZ size 1 - 5



Model code

(also order example)

6kt-shr.ISO4014 - M6 x 35 - 8.8 A3B

Range

6kt-shr.ISO4014 = hex. head bolt to ISO 4014

Size

ISO4014 M6 for HRZ size 1 2 3
x 35 M8 x 35 4 5 = to ISO 4014
M8 x 45 M8 = unplated =
x 50 M8 x 60 zinc-plated

Bolt quality

8.8 Bolt

plating no

details A3B

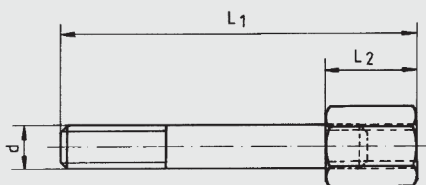
Note: Exposed parts may show signs of flash rust!

Build-up bolt (AF)

HRZ size 1 - 5



Dimensions



Size	Dimensions [mm]		
	L1	L2	d
1	34	14	M6
2	33	13	M8
3	44	15	M8
4	49	15	M8
5	62	15	M8

Model code

(also order example)

HRZ 4 AF ST M ZN

Range

HRL = HY-ROS light range, for size 1

HRZ = HY-ROS twin clamp, from size 2

Size

for HRZ size

0+1 1 2 2
up to size 5

Designation

AF = build-up bolt

Material of steel parts

ST = steel

A2 = stainless steel (on request)

A4 = stainless steel (on request)

Thread type

M = metric thread

Plating of steel parts

ZN = zinc-plated

Others on request

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the relevant technical department.

The operator is always responsible for determining the product suitability for the specific application. Quantified values for product characteristics are average values for a new product that undergo a time deterioration process.

Subject to technical modifications and errors.